What's New with SAP BW/4HANA 2.0

Product Management, SAP Data Warehousing
February 27, 2019

THE BEST RUN **SAP**

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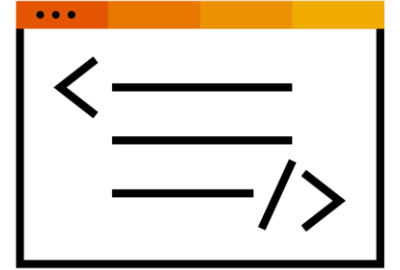
Agenda

Introduction and the evolution of SAP BW

SAP BW/4HANA Web Cockpit

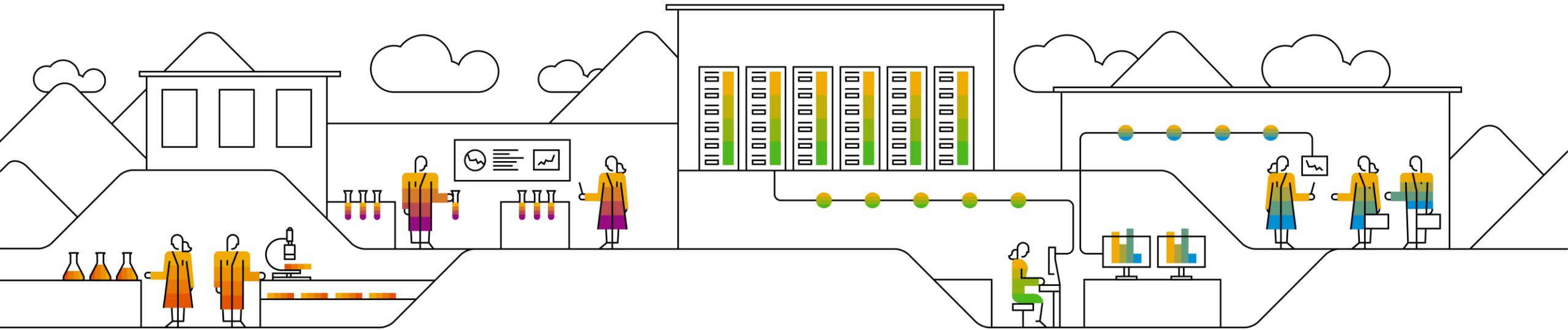BW Modeling Tools in Eclipse with SAP BW/4HANA 2.0

Data Integration with SAP BW/4HANA 2.0

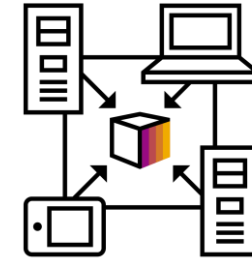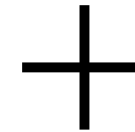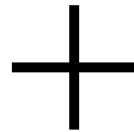Data Protection Management in SAP BW/4HANA 2.0

Analytic Engine in SAP BW/4HANA 2.0 and SAP Analytics Cloud Integration

Introduction and the evolution of SAP BW

SAP BW/4HANA 2.0 – Key Values

business agility

Flexibility to compete in real time and adjust to changing requirements

cloud ready

Deploy or prototype on a cloud that grows with your business

modern data warehousing

High performance, future-proof platform for all new challenges

SAP BW/4HANA 2.0 – Mission Statement

SAP BW/4HANA 2.0 is…

- SAP's vision for a modern packaged data warehousing solution

- highly optimized for SAP HANA

- simplifying every aspect of data warehousing

- capitalizing on all business applications and modern data sources via smart integration

- driving innovation with a unified data platform
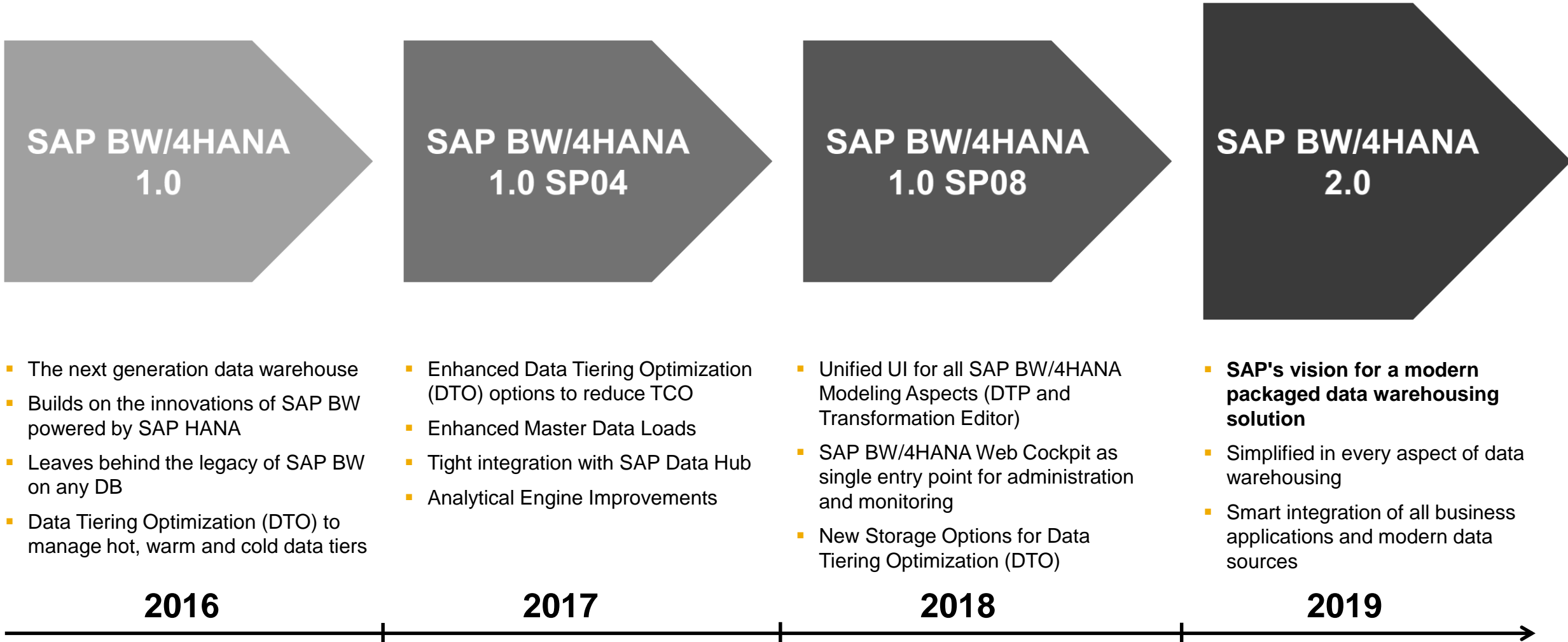
modern data warehousing
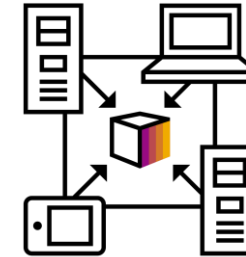
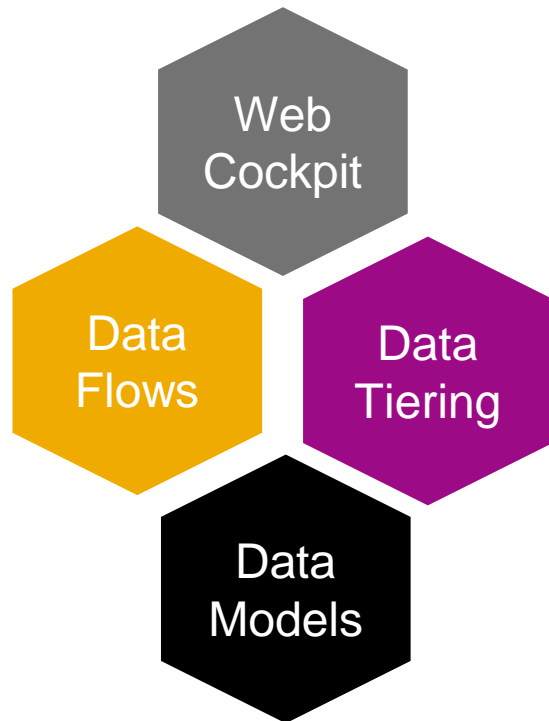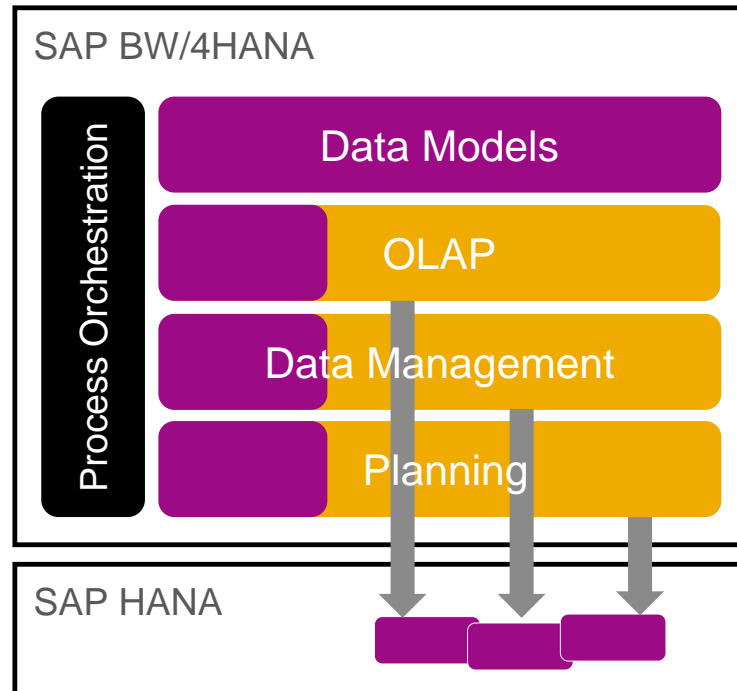**SAP BW/4HANA 2.0 Key Values**

cloud ready

business agility

SAP BW/4HANA – The Evolution From SAP BW/4HANA 1.0 to 2.0

SAP BW/4HANA 1.0

SAP BW/4HANA 1.0 SP04

SAP BW/4HANA 1.0 SP08

SAP BW/4HANA 2.0

- The next generation data warehouse
- Builds on the innovations of SAP BW powered by SAP HANA
- Leaves behind the legacy of SAP BW on any DB
- Data Tiering Optimization (DTO) to manage hot, warm and cold data tiers

- Enhanced Data Tiering Optimization (DTO) options to reduce TCO
- Enhanced Master Data Loads
- Tight integration with SAP Data Hub
- Analytical Engine Improvements

- Unified UI for all SAP BW/4HANA Modeling Aspects (DTP and Transformation Editor)
- SAP BW/4HANA Web Cockpit as single entry point for administration and monitoring
- New Storage Options for Data Tiering Optimization (DTO)

- **SAP's vision for a modern packaged data warehousing solution**
- Simplified in every aspect of data warehousing
- Smart integration of all business applications and modern data sources

2016

2017

2018

2019

SAP BW/4HANA 2.0 – Simplify the provisioning of timely business insights

Web Cockpit

Data Flows

Data Tiering

Data Models

SAP BW/4HANA

Process Orchestration

Data Models

OLAP

Data Management

Planning

SAP HANA

SAP HANA Enterprise Cloud

Amazon Web Services

Google Cloud Platform

Microsoft Azure

Transform data practices to gain efficiency and agility

Deploy live immediate insights at scale

Get up and running quickly and easily in the cloud

SAP BW/4HANA 2.0
Web Cockpit
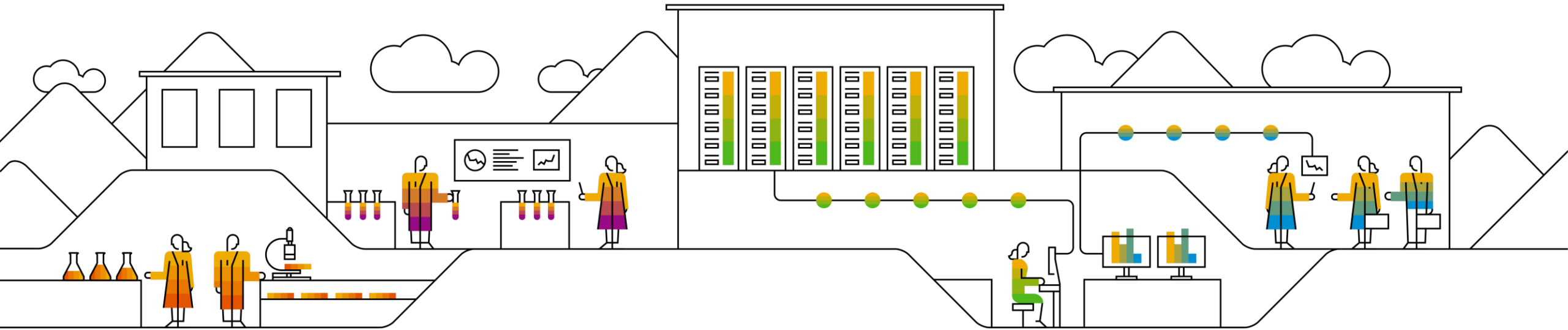
Modern UI: SAP BW/4HANA Web Cockpit

Overview

- Following SAP Fiori design patterns
- Single point of entry for administration tasks in SAP BW/4HANA
- Unified user experience
- Extensible for own applications and groups
- Modifiable for user context and authorizations

SAP BW/4HANA Web Cockpit

Modern UI: SAP BW/4HANA Web Cockpit

New Features Overview

- Simplified Search
- Personalization, Subscription & Notifications
- Enhanced Master Data Maintenance
- Data Volume & Data Selection Statistics
- Execute and Schedule Remodeling Requests
- Data Tiering Summary & Maintenance (partition management)
- Data Protection Management (Worklist & Notifications)
- Analysis Authorization Editor
- External SAP Hana View Management
- Enhanced Process Chain Maintenance (InfoArea)
- Direct File Upload to Data Store Objects

SAP BW/4HANA Web Cockpit
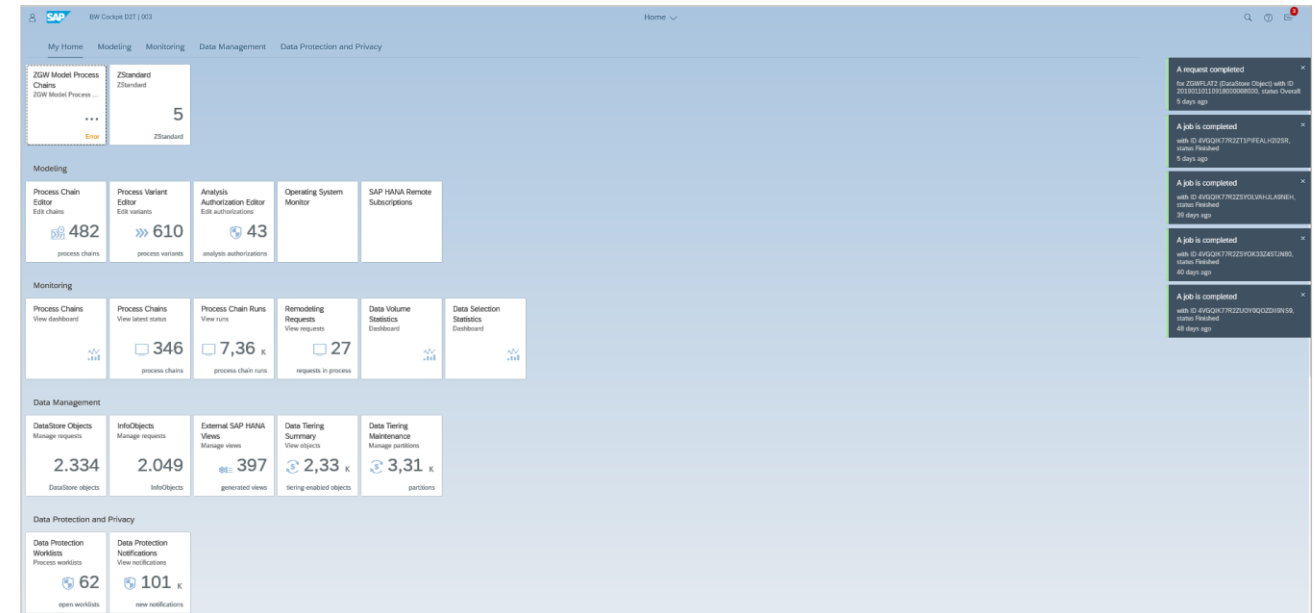
Modern UI: Simplified Search

Feature Description

- Embedded Search in the SAP BW/4HANA Cockpit

- Search on object types are possible

- Comprehensive result sets are displayed

Benefits

- Higher Productivity

Simplified Search

# Modern UI: Personalization of SAP BW/4HANA Web Cockpit

Feature Description

- Home screen of SAP BW/4HANA Web Cockpit is fully customizable

- Adding Groups and Apps to the Home screen of the SAP BW/4HANA Web Cockpit

- Add fully customizable views as tiles to the SAP BW/4HANA Web Cockpit Home screen

- Personalized views can be shared (E-Mail) or saved as custom tiles
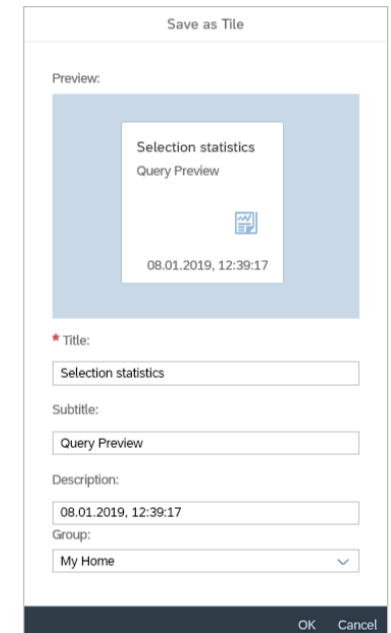
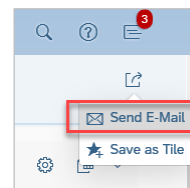## Benefits

- Higher Productivity

Personalization
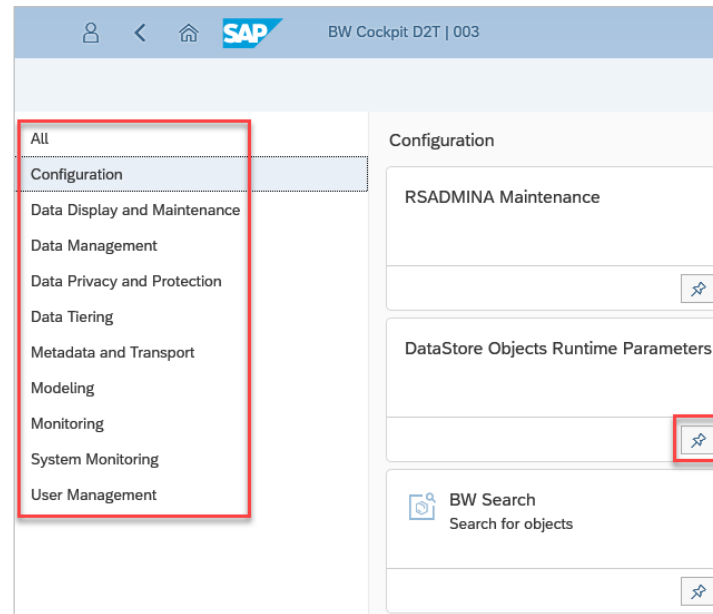
Customizing options

Tiles

E-Mail Notification

Modern UI: Notification Handling

Feature Description

- Different types of Notifications: Process Chains, Requests, Jobs

- Navigation from Notification is possible with a mouse click for Requests and Process Chains

- Sortable by Date, Type or Priority

- Notification Structure: Description, Sub-description, Time Stamp

- Color Coding for Priorities

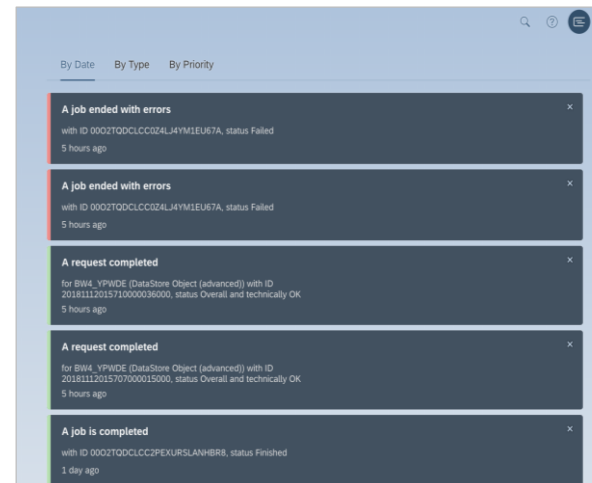- Configured and stored in the user settings

Benefits

- Higher Productivity
  - Simplified Viewing of Results of Triggered Actions
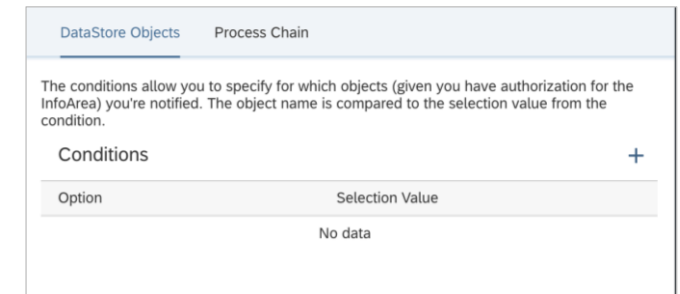 - Simplified Reaction on Critical Changes
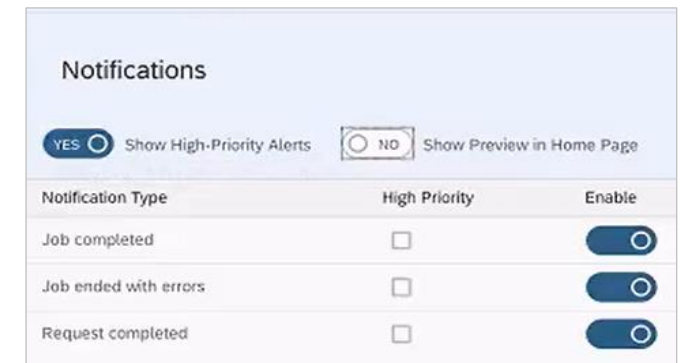
Notification Handling

Number of New Notifications

Display of Notifications

Subscription to aDSO and Process Chains

Notification Settings

Modern UI: New Master Data Maintenance

Feature Description

- Integrated into SAP BW/4HANA Web Cockpit
- Supports creation, modification and deletion of master data
- Where-used functionality to investigate usage of dedicated master data values by InfoProvider
- Copy & paste support for mass data creation or modification
- InfoObjects can be loaded in Streaming Mode

Benefits

- Higher Productivity
- Easy maintenance

Master Data Maintenance

# Modern UI: ABAP CDS Views for SAP BW/4HANA Statistics

Feature Description

- SAP BW/4HANA application statistics available as ABAP CDS Views
- New Content to replace former Technical Content for:
  - Current query performance
  - Process Chain and Data Transfer Process
  - Data Volume Statistics & Data Store Object Request
- Delivered with SAP BW/4HANA 2.0:
  - Data Volume History statistics
  - Data Selection statistics
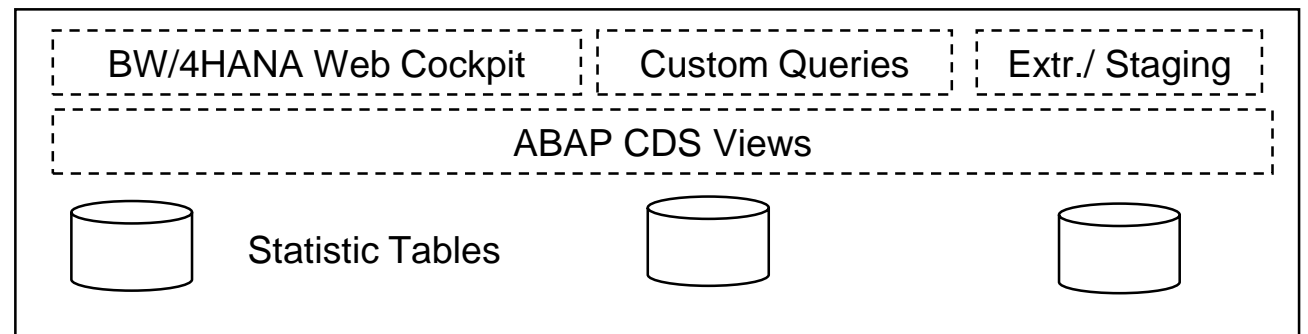 - Extraction/Staging support for statistics data

Benefits

- Out of the box access to SAP BW/4HANA application statistics
- Web UI accessible from multiple devices
- Configurable to build custom monitoring

Statistics
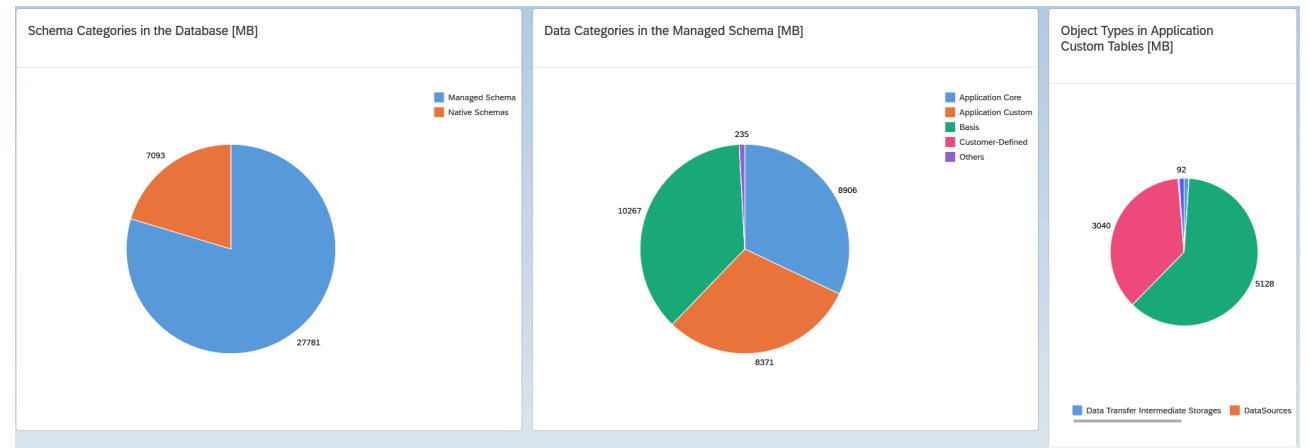
Data Volume Statistics Dashboard in the SAP BW/4HANA Web Cockpit

Modern UI: Data Tiering Optimization (DTO)

Feature Description

- DTO is one concept for hot, warm and cold data based on HANA Technology such as SDA, Scale Out and disk storage in SAP IQ, Vora, Hadoop

- Displacement of data as simple and periodic housekeeping activity

New Features

- Administration and Monitoring in SAP BW/4HANA Web Cockpit
  - Data Tiering Maintenance and Monitoring
  - Embedded in Data Volume History Statistics (data growth) & Data Selection Statistics (access to time slices)

- Coverage of Inventory Data Store Objects in cold store

- Cold Store connection configurable on object level

- Data Tiering on DataStore Objects updated in streaming mode

Benefits

- Easy and low effort to define and implement smart data aging concepts

Data Tiering Optimization

For more information see Data Tiering Optimization blog

Modern UI: External SAP HANA View Management

Feature Description

- Administration and Monitoring in SAP BW/4HANA Web Cockpit
  - Object Details
  - Object Authorizations
  - Analytic Privileges
  - Database Privileges
  - General Settings
- Check View Consistency
- Regenerate View
- View XML
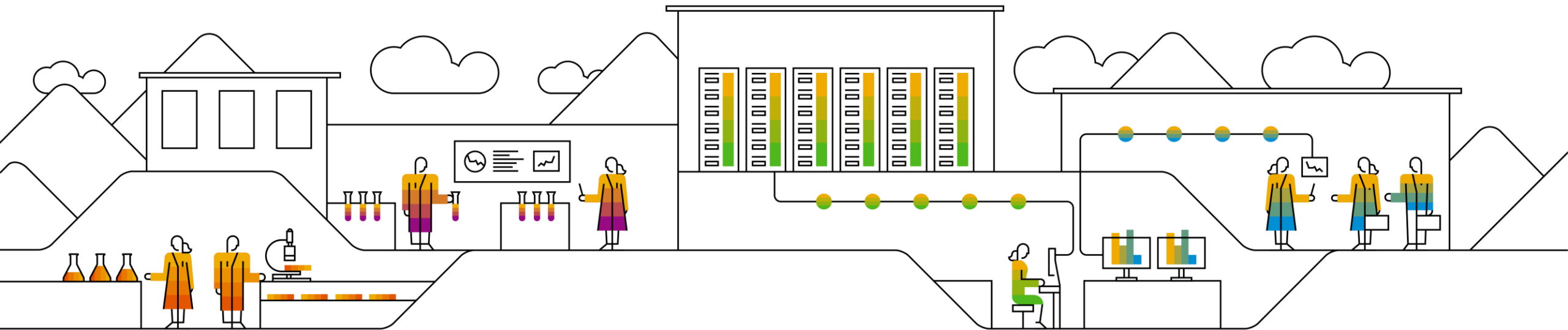- Successor of the backend transaction RS2HANA_ADMIN

Benefits

- Easy and central definition and implementation
- Higher Productivity

SAP HANA View Management

BW Modeling Tools in Eclipse with
SAP BW/4HANA 2.0

Modern UI: BW/4HANA Modeling Tools in Eclipse

Delivered Eclipse Editors in SAP BW/4HANA

Overview

- Unified UI for all BW/4HANA Modeling
- Single point of entry for modeling tasks in SAP BW/4HANA
- SAP GUI no longer required for modeling tools

Benefits

- Reduced efforts and easy to use
- Faster time to value
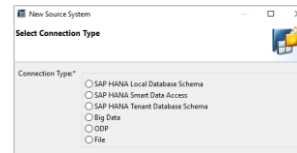
Source System
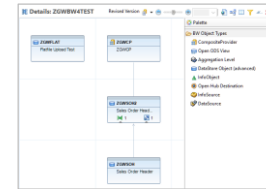
Data Flow Object
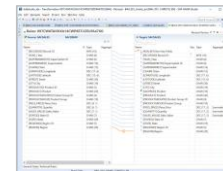
Transformation
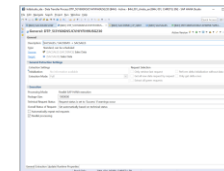
Data Transfer Process (DTP)
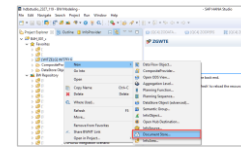
Document Store
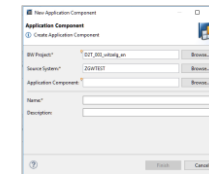
Application Component
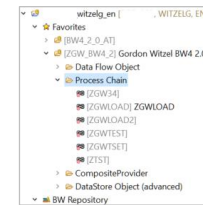
Process Chain Integration
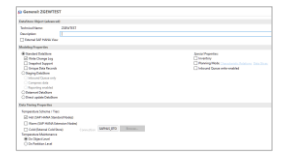
DataStore Object (optimized editor)
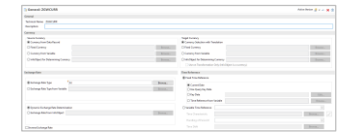
Currency Translation Type
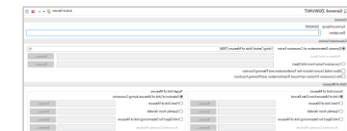
Unit Conversion Type
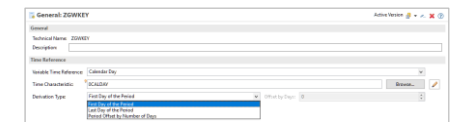
Key Date Derivation Type

SAP BW/4HANA 1.0

SAP BW/4HANA 2.0

Modern UI: BW Modeling Tools in Eclipse

New Features Overview

- Enhanced Data Flow Copy (more than one copy, definition on object level)
- DataFlow: Display of HANA View(s) in CompositeProvider
- Optimized Data Store Object Editor
- Data Store Object remodeling in Eclipse and execution in SAP BW/4HANA Web Cockpit
- Data Tiering Optimization – cold store connection configurable on object level
- Simplified Search
- New Editors: Currency Translation Type, Unit Conversion Type and Key Date Derivation
- HDI consumption
- Asynchronous object activation – editor is not blocked during activation
- Process Chain Integration

SAP BW/4HANA Modeling Tools

Modern UI: New DataStore Object Remodeling Capabilities

Feature Description

- New option in DSO editor -> Remodeling

- Enables new modeling approaches (start agile and move to more guided data models EDW vs. DataMart)

- Available on Field or InfoObject selection in the Fields Tree

- Remodeling options:
  - Replace by InfoObject
  - Replace by Field
  - Fill with Value of InfoObject (must exist in current ADSO)
  - Fill with Value of Field (must exist in current ADSO)
  - Filled by Constant Value

Benefits

- Flexibility to enhance/change data models without reloading
- Low remodeling effort and easy to use
- Higher Productivity

DataStore Object Remodeling

Data Integration with SAP BW/4HANA 2.0
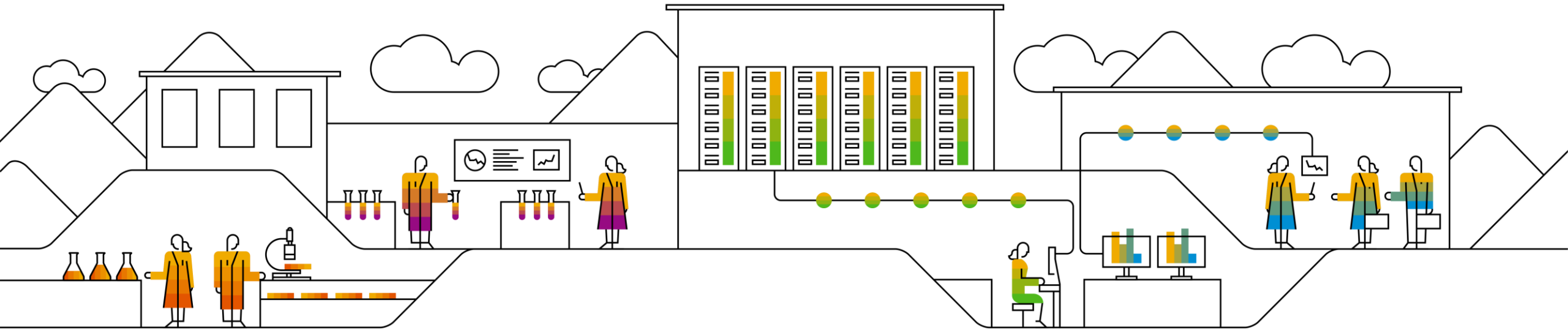
Openness: Data Integration SAP BW/4HANA 2.0

Feature Description

- New DataStore Object setting "Write Interface Enabled" to write directly into Inbound Queue

- Support for Standard- and Staging DataStore Objects

- Integration for:
  - SAP Data Services
  - SAP Cloud Platform Integration (CPI)
  - SAP NetWeaver PI (planned for Q2/2019)
  - SAP Data Hub Integration (planned for H2/2019)

- Successor for SAP Web Service and SAP Data Services Source System (manual conversion)

- No open support for ETL partners

Benefits

- Cost savings
- Simplification

Data Integration Scenarios

SAP BW/4HANA

Data Transfer Process

Write Interface for DataStore Objects

SAP HANA Source System

HANA Smart Data Access (SDA)

HANA Smart Data Integration (SDI)

Available in Q1 2019
SAP DS 4.2 SP11 Patch 4 (on premise)

SAP Data Services

SAP Data Hub

Plan: Q3 2019
CPI-DS*

Plan: H2 2019

Available in Q1 2019

SAP Cloud Platform Integration (CPI)

SAP NetWeaver Process Integration (PI)

SAP API Business Hub

Plan: Q2 2019
SAP NetWeaver PI 7.50 SP15

Clouds Applications

Databases

Other Sources

Sources

*SAP Cloud Platform Integration for Data Services

Openness: Big Data Warehousing with SAP BW/4HANA and SAP Data Hub

- Close Integration with S/4HANA & SAP Cloud Applications (via common Cloud Data Integration API)

- Schema-less Data Warehousing with high automation and minimal Modeling

- Data Lake as primary high volume and computation persistency

- Scalable Storage and Data Processing capabilities

- Data Processing beyond OLAP with Machine Learning / Predictive Analytics …

Data Warehousing for the Intelligent Enterprise based on the SAP HANA Data Management Suite
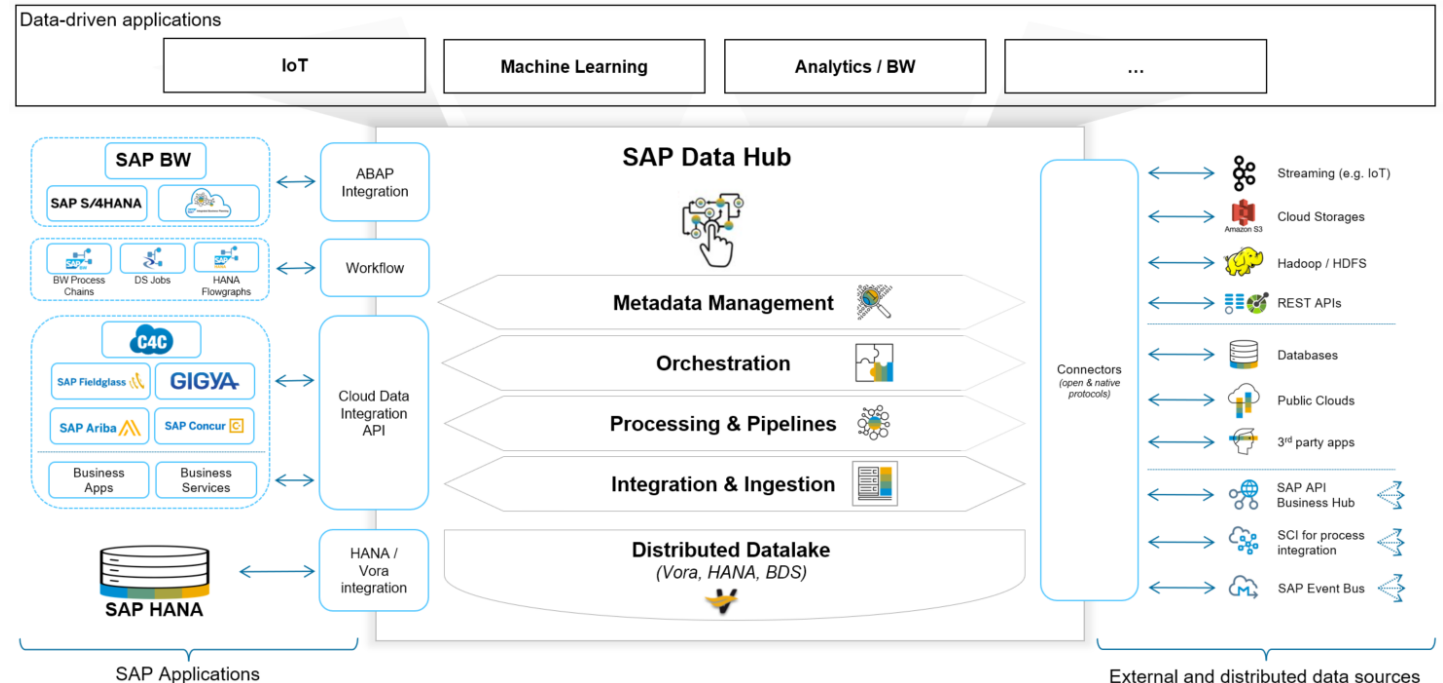
Openness: Data Integration SAP BW/4HANA 2.0 and SAP Data Hub

Feature Description

- Process Orchestration
  - **Execute new SAP Data Hub 2.x Pipelines and Workflows from SAP BW/4HANA***
  - Execute SAP BW (>= 7.4) and SAP BW/4HANA Process Chains from SAP Data Hub Workflows

- Data Management
  - **Direct write to Data Store Objects from SAP Data Hub pipelines***
  - Direct read from InfoProviders & Queries into SAP Data Hub Pipelines
  - BW Data Transfer Operator in SAP Data Hub
  - Big Data Source System in SAP BW/4HANA (SAP Vora and Spark)
  - Open Hub in SAP BW 7.50 and SAP BW/4HANA to Hadoop File System (HDFS)

- Meta Data Governance
  - Connect SAP BW and SAP BW/4HANA to the SAP Data Hub Meta Data Explorer

SAP Data Hub Integration
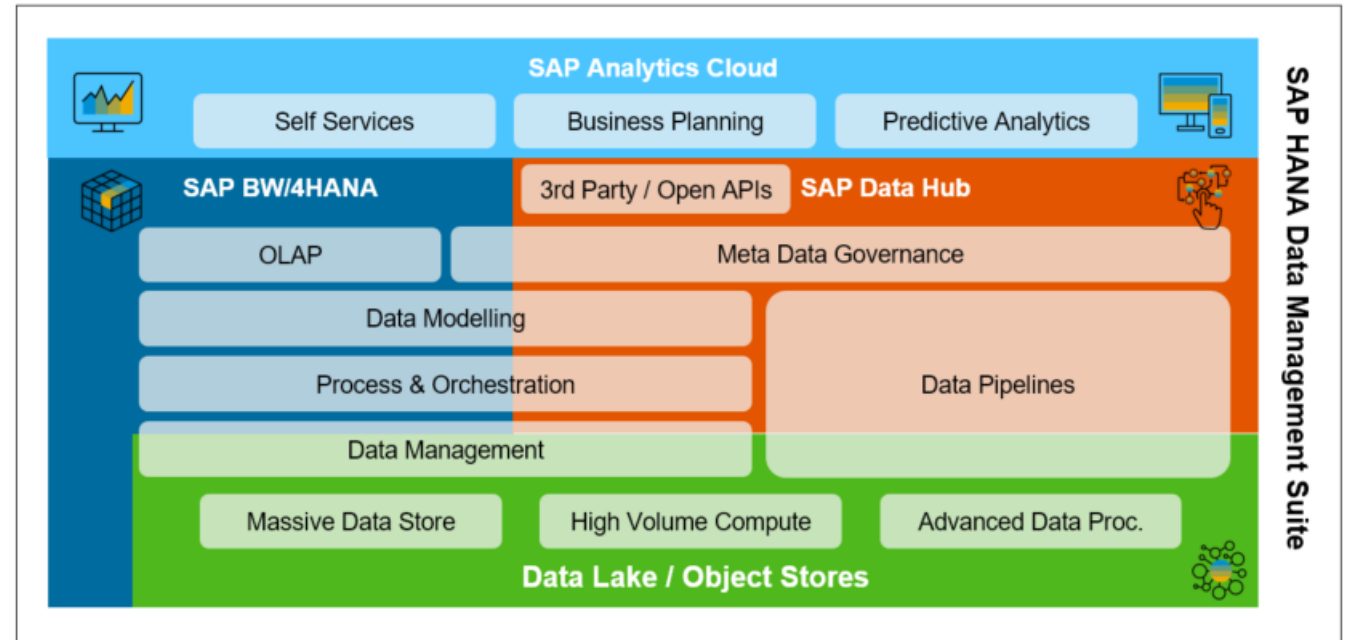
*New features in BW/4HANA 2.0 are **highlighted**

Openness: Data Integration from SAP S/4HANA Cloud to SAP BW/4HANA 2.0

Feature Description

- Technical framework and connectivity (HTTP / SOAP based) between SAP BW/4HANA and SAP S/4HANA Cloud (communication scenario)

- Application based ABAP CDS Content for extraction (e.g. financials, logistics, …)

- Planned for SAP S/4HANA Cloud 1905
  - Status Quo: see SAP Note 2674373
  - SAP Help Portal for further information

- Easy to extend and support for custom ABAP CDS Views

Benefits

- Cost savings
- Simplification

SAP S/4HANA Cloud Integration
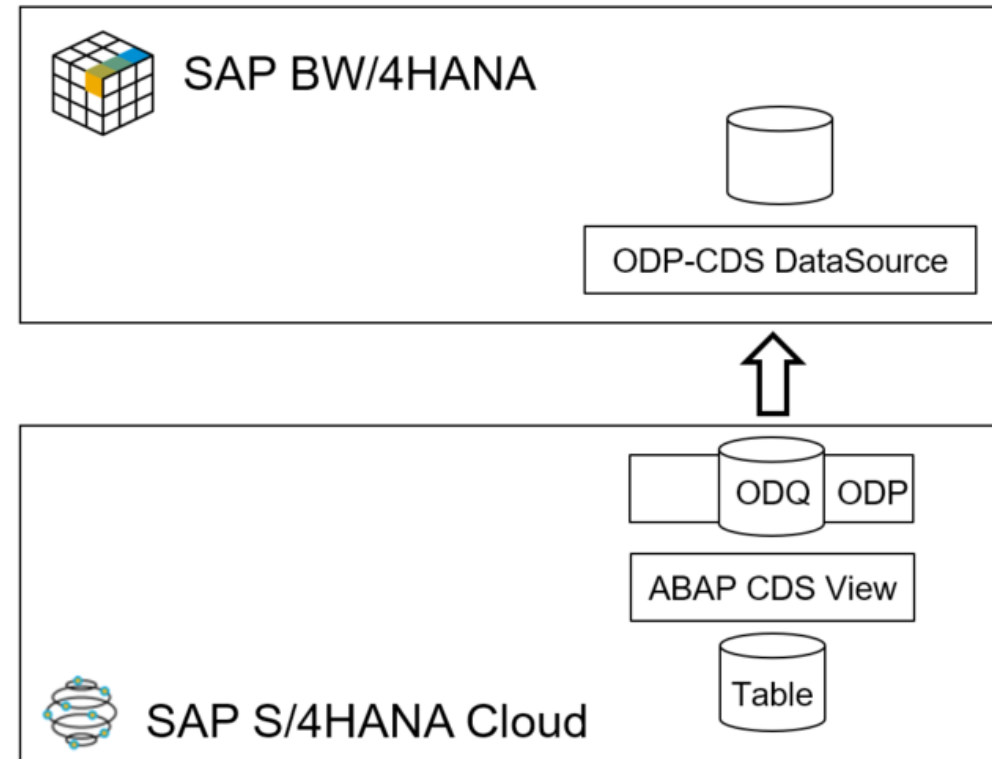
Customer availability planned for S/4HANA Cloud in 2019

Openness: SQL View for Look-ups on DataStore Objects

Feature Description

- SAP BW/4HANA 2.0 creates a External SAP HANA SQL View on ADSOs
  - Exposes only fields/InfoObjects of the ADSO, no join with text, master data
  - Also includes fields considered not reporting-relevant
  - AMOUNT fields included in internal and external format (i.e. with and without decimal shift)
  - Covers all ADSO partitions – hot, warm and cold
  - Automatically created for all ADSOs, no user maintenance required (/<Namespace>/A<adsonm>8)
  - More information available in SAP Note 2723506

Benefits

- Provides Access for Lookups, JOINs, etc. in SQL Transformations or for SAP HANA native access
- Enhanced support for mixed scenarios

DataStore Object Look-up SQL View
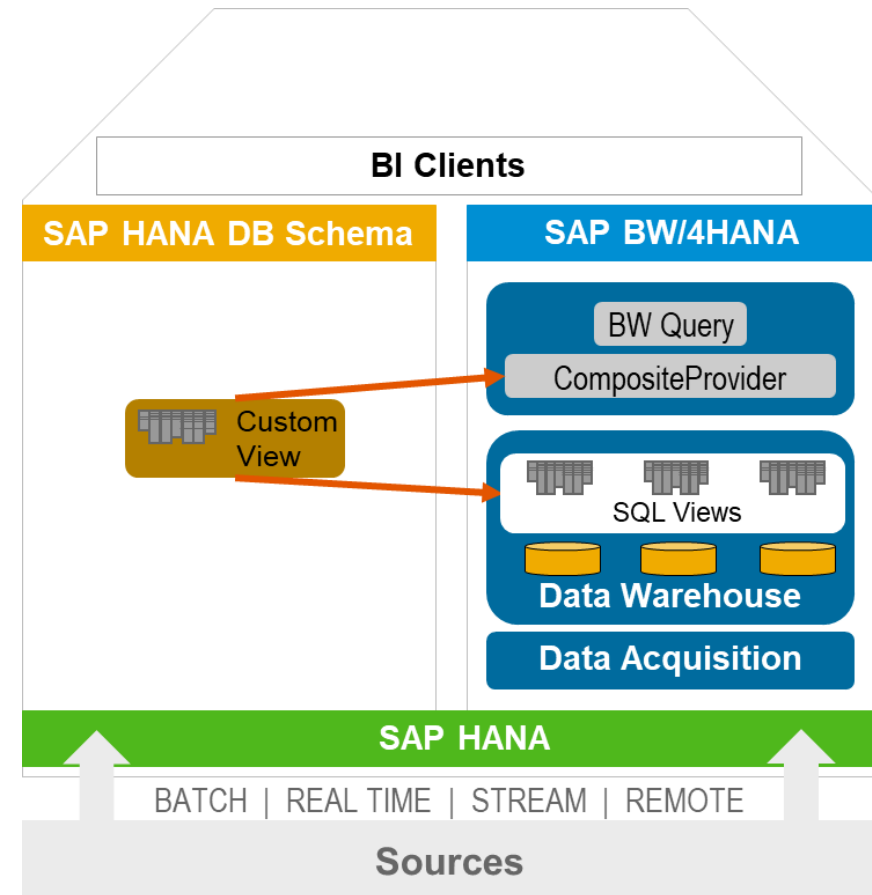
Data Protection Management in
SAP BW/4HANA 2.0
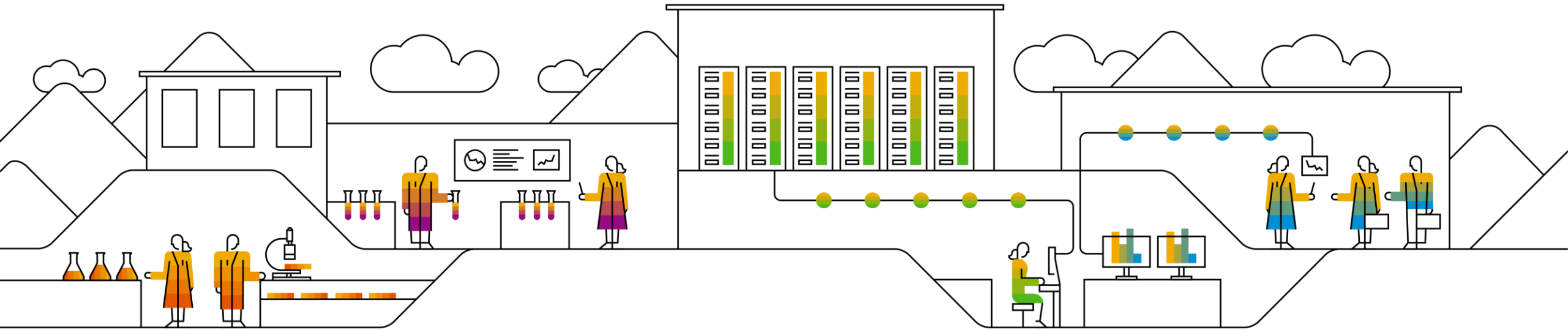
Data Protection & Privacy: Data Protection Workbench - Motivation

Situation today

- Personal data is increasingly protected by laws (e.g. EU GDPR)
- SAP BW/4HANA offers capabilities for Data Protection & Privacy support (see security guide SAP BW/4HANA)
- Generic deletion capabilities in SAP BW/4HANA are independent of Business Suite handling
- SAP ILM ensures retention management in operational systems and is used to support data protection & privacy compliance

Challenge

- Improved support and tight integration of SAP BW/4HANA with SAP ILM to delete replicated personal data in SAP BW/HANA after the end of purpose of the data.

Approach

- SAP ILM notification framework allows to persist notifications of deleted (personal) data during ILM processes
- Replicate notifications from SAP ILM to SAP BW/4HANA
- Data Protection Workbench supports:
    - Identify InfoProviders containing sensible data
    - Selective deletion of corresponding transactional- and master data records
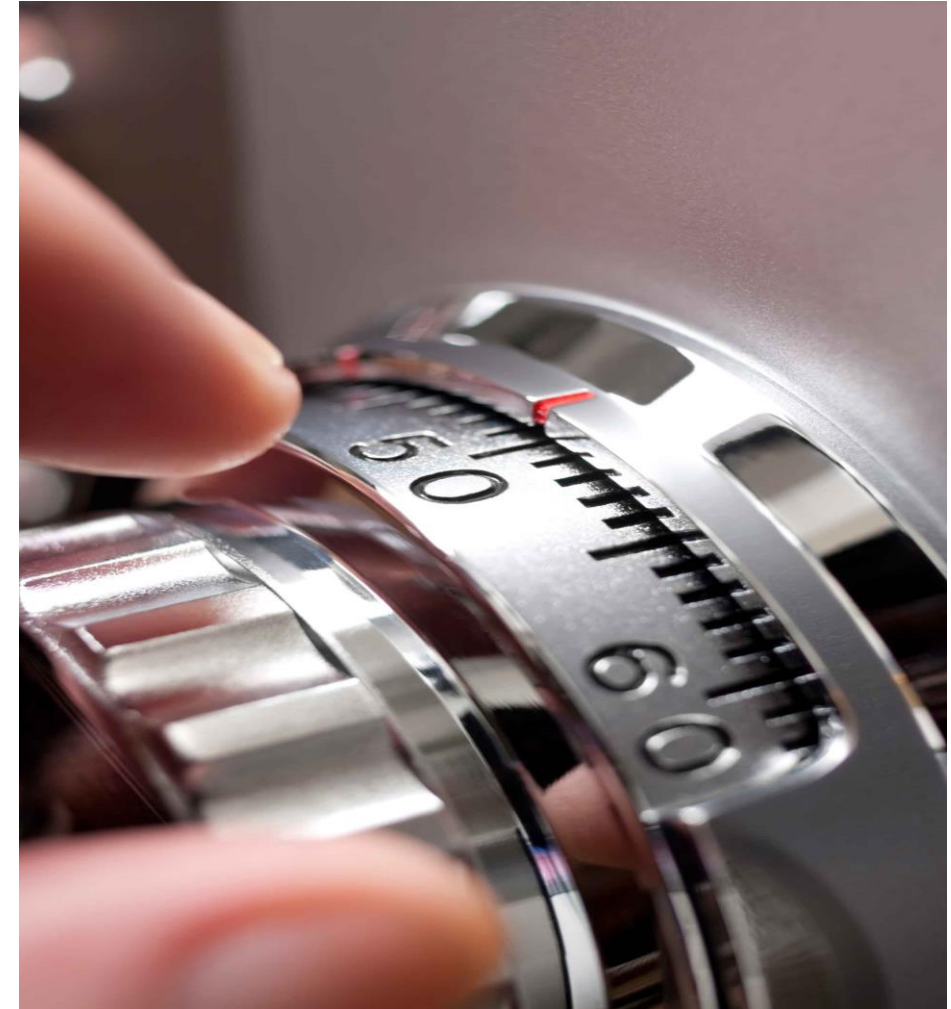
Data Protection & Privacy: Data Protection Workbench - Process

Feature Description

SAP ILM

- SAP ILM persists events during SAP ILM processes (e.g. deletion of personal data)
- Mapping of SAP ILM object (e.g. ,Sales Order') to SAP BW/4HANA DataSource allows identification of relevant data targets in SAP BW/4HANA

Data Protection Workbench

- Persist notifications from SAP ILM into a SAP BW/4HANA Data Store Object
- Seamless integration into Fiori-based SAP BW/4HANA Web Cockpit
- Grouping of notifications into worklists according to subject matters to orchestrate the deletion process
- Identification of InfoProviders along a data flow containing the data to be deleted
- Documentation of worklist processing status (for legal auditing)

Benefits

- Integrated solution to consistently delete replicated data from supported operational SAP source systems to reduce administration effort
- Modern UI seamlessly integrated in SAP BW/4HANA Web Cockpit
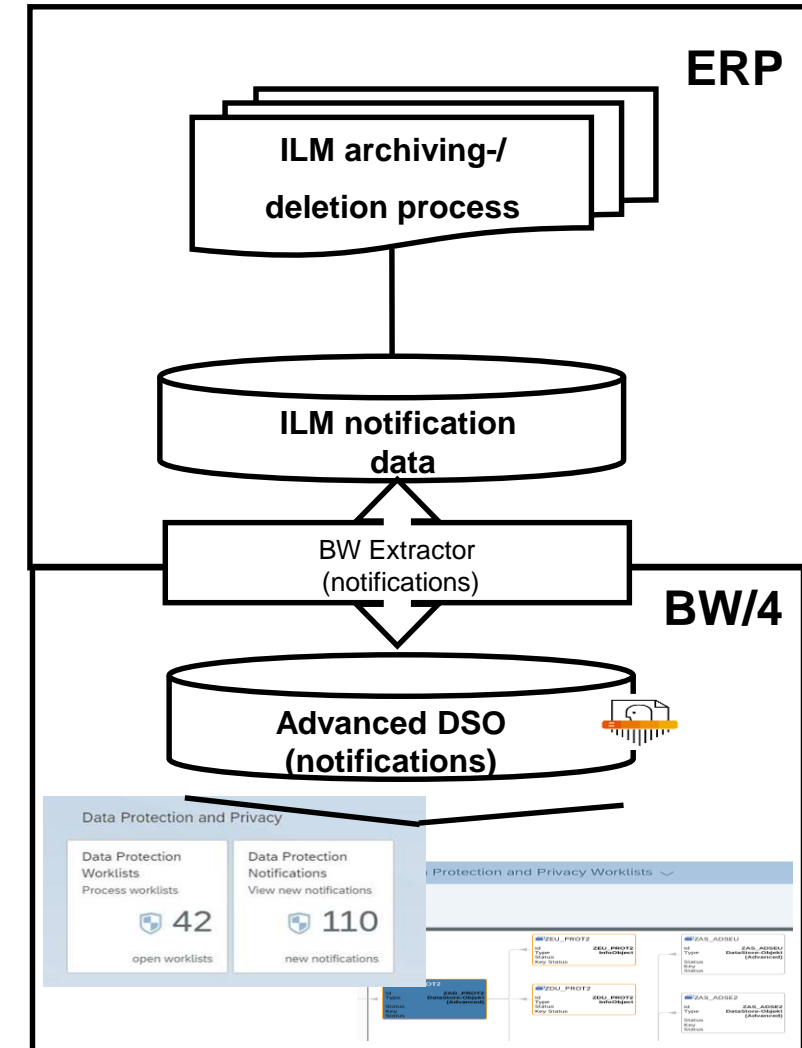
Analytic Engine and SAP Analytics Cloud Integration in SAP BW/4HANA 2.0
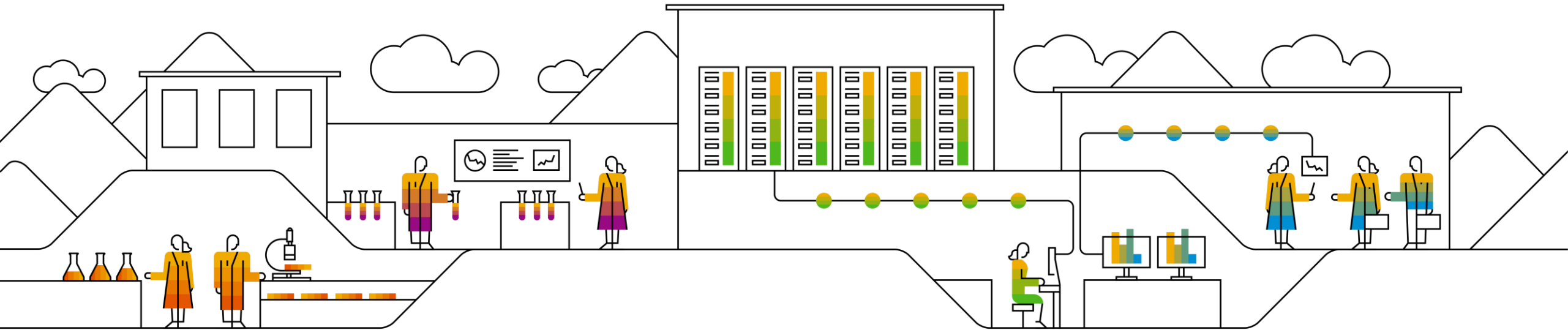
High Performance: Analytic Engine*
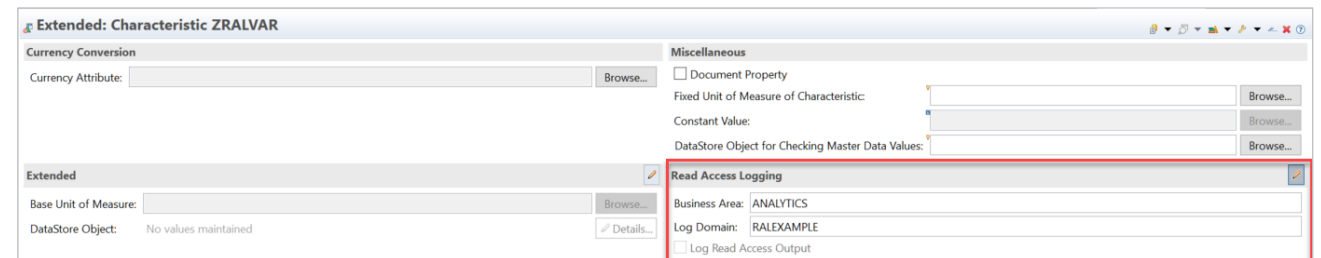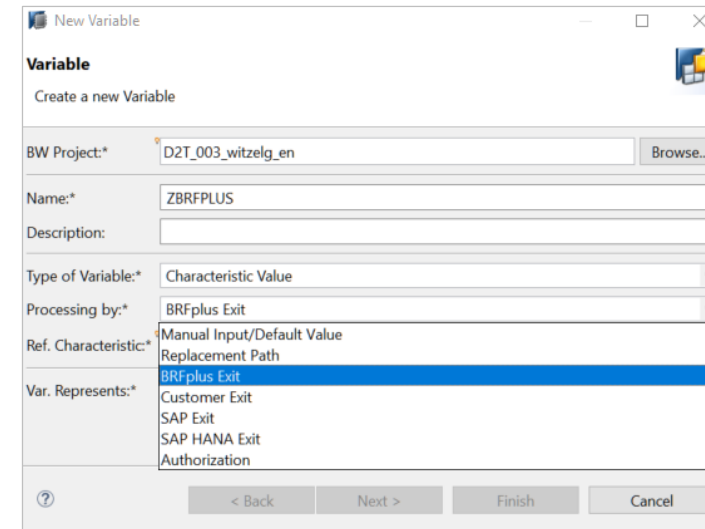
New Features

- Conditions calculated in SAP HANA (push-down)
  - TopN, BottomN, LessThan, GreaterThan, NotBetween, …
- RSECADMIN (maintain analytic authorization) in SAP BW/HANA Web Cockpit
- Variable Type BRF+ (used for customer defined validations, derivations and calculations)
- Read Access Logging (RAL) integration for advanced auditing
- Custom Exception Aggregation and IF Operator for Analysis Office and SAC
- SAP Analytics Cloud Adoption through SAP BW Live Connection including new Chart Support

Benefits

- Higher Performance due to push-down to the SAP HANA database
- More flexibility in variable definition

Analytic Engine

[* A blog for detailed information is available](#)

Simplicity: New Chart Types for SAP Analytics Cloud on SAP BW/4HANA

Feature Description

- Support for additional chart types with SAC Live connection
  - Waterfall Chart
  - Geospatial
  - Time Series
  - Variance Chart
  - Linked Analysis with more than one dimension
  - Conditions
  - Tuple Filter

Benefits

- New visualization capabilities

New SAP Analytics Cloud Chart Types

Thank you.

Contact information:

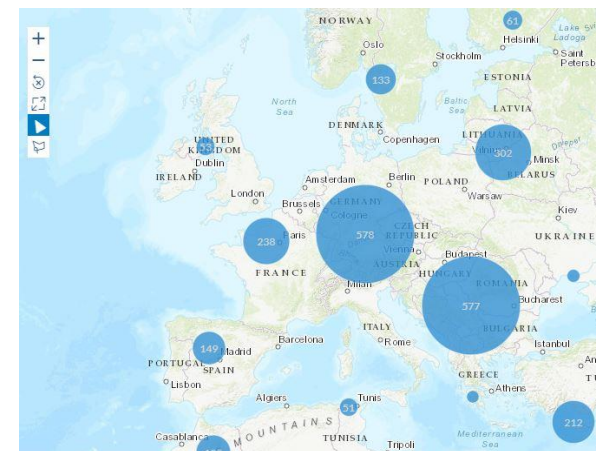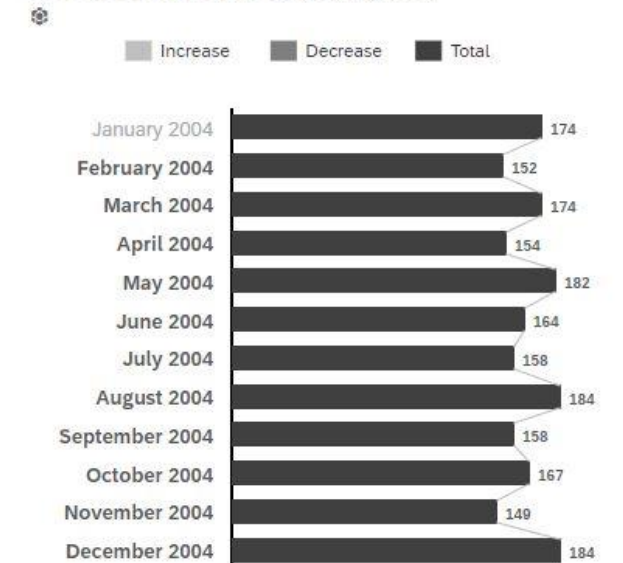**Product Management SAP BW/4HANA**

Abbreviations

ABAP	Advanced Business Application Programming	DWaaS	Data Warehouse as a Service	ODQ	Operational Delta Queue
ADSO	Advanced DataStore Object	ECC	Enterprise Core Component	ODS	Operational DataStore
AFL	Application Function Library	EDW	Enterprise Data Warehouse	OLAP	Online Analytic Processing
AGS	SAP Active Global Support	EIM	Enterprise Information Management	PSA	Persistent Staging Area
ASE	SAP Adaptive Server Enterprise Database	ELT	Extract, Load, Transform	RDBMS	Relational Database Management System
AWS	Amazon Web Services	ERP	Enterprise Resource Planning	SDI	SAP HANA smart data integration
BAPI	Business Application Programming Interface	ETL	Extract, Load, Transform	SLO	System Landscape Optimization
BEx	Business Explorer	FI,CO,SD,MM,HR	Financials, Controlling, Sales & Distribution, Material Management,, Human Resources	SLT	SAP Landscape Transformation
BI	Business Intelligence			SOAP	Simple Object Access Protocol
BW	Business Warehouse	HAP	SAP HANA Analytic Process	SP	Support Package
C4C	Cloud for Customers	HEC	SAP HANA Enterprise Cloud	SPS	Support Package Stack
CRM	Customer Relationship Management	HTML	Hypertext Markup Language	SQL	Structured Query Language
DB	Database (Connect)	IQ	SAP IQ Database	SUM	Software Update Manager
DLM	Data Lifecycle Management	IoT	Internet of Things	SWPM	Software Provisioning Manager
DMO	Database Migration Option	LSA	Layered Scalable Architecture	UD	Universal Data (Connect)
DSO	DataStore Object	LSA++	Layered Scalable Architecture for SAP HANA	UI	User Interface
DW	Data Warehouse			UI5	SAP UI Development Toolkit for HTML5
DWH	Data Warehouse	ML	Machine Learning		
		NLS	Near-line Storage	UX	User Experience
		ODP	Operational Data Provisioning		